

CLAIMS

1. A hand held washing unit comprising:
  - a motor drive unit comprising:
    - a housing having an upper battery receiving cavity and a lower motor receiving cavity,
    - a motor received in said lower cavity,
    - electrical contacts positioned within said upper cavity being electrically connected to said motor,
    - a linkage drivingly connected to said motor, and
    - an output drive member connected to said linkage;
  - an elongate handle connected to said motor drive unit for grasping while in use;
  - a battery pack receivable in said upper cavity, said battery pack having a housing for receipt of at least one battery, said battery being electrically connected to battery contacts external of said housing, said battery being in alignment with said motor contacts; and
  - a switch interconnected between said battery and motor, for switching power between the battery and motor;

whereby, upon installation of said battery pack into said upper cavity, said battery contacts electrically engage said motor contacts, electrically interconnecting said battery to said motor.
2. The hand held washing unit of claim 1, wherein said motor drive axis and said output drive member are aligned along a common axis.

3. The hand held washing unit of claim 2, wherein said upper cavity is in alignment with said common axis, such that said battery is installed along said common axis.

4. The hand held washing unit of claim 1, wherein said battery pack includes a plurality of serially connected batteries connected at opposite poles to said battery contacts.

5. The hand held washing unit of claim 4, wherein said battery pack is comprised of a bi-partite housing comprising an upper housing and lower housing, said bi-partite housing including battery positioning walls therein, and three batteries positioned therein.

6. The hand held washing unit of claim 4, wherein said switch is intermediate said serial connection.

7. The hand held washing unit of claim 6, wherein said switch is installed in said battery pack.

8. The hand held washing unit of claim 7, wherein said battery pack is comprised of a housing member having an upper and lower surface, said battery contacts being positioned on said lower surface, and being receivable within said upper cavity, said switch being positioned within said switch housing member, said battery pack further comprising an actuator for said switch, said actuator extending through said upper surface of said housing member.

9. The hand held washing unit of claim 6, wherein said switch includes a full power position and a partial power position, said partial power position having silicon rectifier diodes in series therewith, for controlling the voltage drop.

10. A hand held washing unit comprising a motor drive unit comprising, a housing having a lower drive train receiving cavity, a drive train positioned within said receiving cavity, said drive train comprising a motor positioned in and held by a gear casing, said gear casing having gear teeth on an inner periphery thereof, and a planetary gear assembly positioned within said gear casing and driven by said motor, said planetary gear assembly having an output drive shaft, a brush for

connection with said output drive shaft, an elongate handle connected to said motor drive unit for grasping while in use, and a battery assembly for connection with said motor for driving the motor.

11. The hand held washing unit of claim 10, wherein said planetary assembly is comprised of a double planetary gear set.
12. The hand held washing unit of claim 10, wherein said motor drive unit is further comprised of a housing having an upper battery receiving cavity and a lower receiving cavity, said motor and planetary gear assembly positioned in said lower cavity, and electrical contacts positioned within said upper cavity being electrically connected to said motor.
13. The hand held washing unit of claim 12, wherein said battery assembly is comprised of a battery pack receivable in said upper cavity, said battery pack having a housing for receipt of at least one battery, said battery being electrically connected to battery contacts external of said housing, said battery being in alignment with said motor contacts.
14. The hand held washing unit of claim 13, wherein said battery pack includes a plurality of serially connected batteries connected at opposite poles to said battery contacts.
15. The hand held washing unit of claim 14, wherein said battery pack is comprised of a bi-partite housing comprising an upper housing and lower housing, said bi-partite housing including battery positioning walls therein, and three batteries positioned therein.
16. The hand held washing unit of claim 14, wherein said switch is intermediate said serial connection.
17. The hand held washing unit of claim 16, wherein said switch is installed in said battery pack.
18. The hand held washing unit of claim 17, wherein said battery pack is comprised of a housing member having an upper and lower surface, said battery contacts being

positioned on said lower surface, and being receivable within said upper cavity, said switch being positioned within said switch housing member, said battery pack further comprising an actuator for said switch, said actuator extending through said upper surface of said housing member.

19. The hand held washing unit of claim 18, wherein said switch includes a full power position and a partial power position, said partial power position having silicon rectifier diodes in series therewith, for controlling the voltage drop.
20. A hand held washing unit comprising, a motor drive unit comprising a housing having a lower motor receiving cavity, a motor received in said lower cavity, a linkage drivingly connected to said motor, an output drive member connected to said linkage; a battery connected to said motor, a yoke attached to said motor drive unit and an elongate handle connected to said yoke for grasping while in use, said yoke having a locking mechanism cooperable between said yoke and drive unit, said locking mechanism having a plurality of locked positions, locking said motor drive unit in a plurality of positions.
21. The hand held washing unit of claim 20, wherein said yoke has yoke arms flanking said motor drive unit, and said locking mechanism is comprised of a locking ring attached to said motor drive unit, inside one of said yoke arms, and a selector knob cooperable with said locking ring and extending through said yoke arm, said selector knob being rotatable between select positions whereby said knob can be locked to said locking ring and to said yoke arm.
22. The hand held washing unit of claim 21, wherein said cooperation between said selector knob, said locking ring and said yoke arm provides two locked positions and a floating position.

23. A battery powered apparatus and charging assembly, comprising:

a drive mechanism having a housing, a motor and a linkage to a drive member, the housing having a battery receiving cavity,

a battery pack receivable in said battery receiving cavity, said battery pack being latchably attached within said cavity,

a storage member for positioning on a wall, having a hanging bracket for storing said unit, said storage member further comprising a charging unit which receives said battery pack in a charging configuration, whereby

said battery pack can be removed from said apparatus, said apparatus stored on said storage member, and said battery removed and placed in said charging unit.

24. The assembly of claim 23, wherein said charging unit is removable from said storage member.

25. A hand held washing unit comprising:

a motor drive unit comprising:

a housing having an upper end and a lower motor receiving cavity,

a motor received in said lower cavity,

electrical contacts positioned adjacent to said upper end being electrically connected to said motor,

a linkage drivingly connected to said motor, and

an output drive member connected to said linkage;

an elongate handle connected to said motor drive unit for grasping while in use;

a battery pack connectable to said housing and having battery contacts positionable in electrical connection with said electrical contacts, said battery pack having a housing for receipt of at least one battery;

a seal member positionable between said battery pack and said housing, for sealing the electrical contacts;

a switch interconnected between said battery and motor, for switching power between the battery and motor; and

whereby, upon installation of said battery pack into said upper cavity, said battery contacts electrically engage said motor contacts, electrically interconnecting said battery to said motor, and said battery contacts and said electrical contacts are sealed.

26. The hand held washing unit of claim 25, wherein said housing upper end is defined as a cavity for receiving at least a part of said battery pack.
27. The hand held washing unit of claim 26, wherein said motor drive axis and said output drive member are aligned along a common axis.
28. The hand held washing unit of claim 27, wherein said cavity is annular in shape and said battery pack has a reduced cross sectional area received in said cavity, said seal being positioned around said battery pack to engage an interface between said battery pack and said housing.
29. The hand held washing unit of claim 28, wherein said upper cavity is in alignment with said common axis, such that said battery is installed along said common axis.
30. The hand held washing unit of claim 25, wherein said battery pack includes a plurality of serially connected batteries connected at opposite poles to said battery contacts.
31. The hand held washing unit of claim 30, wherein said battery pack is comprised of a bi-partite housing comprising an upper housing and lower housing, said bi-partite housing including battery positioning walls therein, and three batteries positioned therein.
32. The hand held washing unit of claim 31, wherein said switch is intermediate said serial connection.

33. The hand held washing unit of claim 32, wherein said switch is installed in said battery pack.

34. The hand held washing unit of claim 33, wherein said battery pack is comprised of a housing member having an upper and lower surface, said battery contacts being positioned on said lower surface, and being receivable within said upper cavity, said switch being positioned within said switch housing member, said battery pack further comprising an actuator for said switch, said actuator extending through said upper surface of said housing member.

35. The hand held washing unit of claim 25, wherein said switch includes a full power position and a partial power position, said partial power position having silicon rectifier diodes in series therewith, for controlling the voltage drop.